Ontario

Ministry
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Studies

ENERGY ACTION
Communities at Work

Case Study

Ontario Ministry of Energy
Honourable Philip Andrewes
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Energy Ontario

September, 1983

Community Energy Action: An Overview

Securing Ontario's Energy Future

The world's energy situation is volatile. Stable price structures and security of supply are a thing of the past. Canadians, who have traditionally depended on outside sources for a substantial proportion of their crude oil supplies, cannot afford to be complacent.

Ontario depends on outside jurisdictions for virtually all of its fossil fuel supplies. This also means, of course, that a large proportion of Ontario's fuel dollars are spent outside of the province.

Accepting the challenge, both the Ontario and federal governments have been pursuing the goal of energy and oil self-sufficiency for the past several years. Energy conservation and oil substitution have been encouraged through information and public education programs as well as through financial assistance programs.

Locally-run Energy Programs Make the Difference

While these programs have been successful in reducing energy consumption per capita, there is still much to be done on the local level. Although most Ontario residents are now aware of the importance of energy conservation, many have not translated this awareness into direct action. A successful "grass roots" program, involving both individuals and businesses, requires the closer contact and greater familiarity with local needs and capabilities that municipalities and community organizations can offer.

Recognizing the importance of energy conservation at the municipal level, the Ontario Ministry of Energy with the Association of Municipalities of Ontario (formerly the Association of Counties and Regions of Ontario) established a joint Provincial-Municipal Advisory Committee on Energy Conservation in 1978. The advisory committee encouraged municipal governments to adopt voluntary energy conservation programs for their own operations. As a result of the committee's activities, more than 170 municipalities (representing more than 80 per cent of the province's population) have appointed energy co-ordinators to administer a variety of local conservation projects.

The Community Energy Management Program

The Community Energy Management Program was recently introduced by the Ontario Ministry of Energy to take municipal-level energy conservation a step further by encouraging public participation and by helping Ontario municipal governments overcome financing, information and organizational limitations in their local energy conservation projects. The program will contribute to Ontario's energy security targets:

- to improve the energy efficiency of the average Ontario household by 30% by 1995 over 1980;
- to improve the energy efficiency of commercial buildings, including municipal buildings, by 20% by 1995 over 1980;
- to achieve a 25% reduction in the energy required per unit output of Ontario's industrial sector by 1985 (compared with the 1975 level);
- to achieve a 35% reduction in the energy used per passenger-kilometre travelled and a 20% reduction in the energy used per tonne-kilometre of freight travel by 1995 over 1980.

The long-term goal of the Community Energy Management Program is to enlist the support of Ontario's communities in achieving the province's energy conservation and oil substitution goals.

How Communities Benefit

Community energy management, however, will do much more than help Ontario become energy self-sufficient. It will also have direct, tangible economic benefits for communities. For one thing, it will save tax dollars. Ontario municipalities currently spend between eight and 13 per cent of their tax revenue

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on energy. At a time when the cost of other services is escalating, it makes good economic sense to reduce energy expenditures wherever possible.

Difficult economic conditions are squeezing big and small businesses as well as the individual consumer. Energy conservation programs, resulting in lower energy costs, can go a long way towards relieving this strain. In addition, most of the money spent on fossil fuels leaves the community. If more money stays in the community, more money is available to buy local goods and services. Energy conservation projects also create jobs for local workers and require construction materials which are often purchased from local sources.

What Can Communities Do?

What exactly is Community Energy Management? It can be defined as a "process of planning and managing energy use at the local level which involves the implementation by a community of an integrated on-going set of measures designed to maximize the efficiency of its own energy use". In other words community energy management is local energy planning which relies primarily on the efforts of local people and institutions.

Municipal governments can influence energy conservation in several ways including: making their own operations more energy-efficient (by making municipal buildings and municipal vehicles more efficient); through jurisdiction over land-use planning, traffic management and transit planning; and by encouraging and supporting community-based activities.

A Demonstration Program By and For Communities

With this in mind, the Ministry of Energy sponsored a seminar in October 1981 to discuss the concept of community energy management with Ontario municipalities and to invite them to submit proposals for "pilot" or experimental projects. Any municipality with an energy co-ordinator (appointed in co-operation with the joint Provincial-Municipal Advisory Committee on Energy Conservation) was eligible to submit a proposal.

Specifically, the Community Energy Management Demonstration Program was established to:

- provide public information, technical support and financial support for local community energy initiatives;
- encourage community involvement by direct contact and on-going follow-through;
- encourage replication of project ideas by information transfer;
- channel other Ministry of Energy programs and intermediate agencies and groups to assist communities in their energy activities;
- create a data base of energy conservation practices from these projects and make this information accessible to other Ontario communities;
- share results of the pilot projects with other Ontario communities.

Since 1981, eight community-based energy projects have been initiated under the sponsorship of the Ministry of Energy. They fall into two categories. Four are demonstrations of community energy management planning and the remaining four are demonstrations of individual community energy actions. The first type of project is aimed at the production of a local long-term energy management plan and implementation strategy, while the second type is geared toward the development and implementation of specific energy conservation projects.

Communities Selected for Community Energy Management Demonstration

The four CEMP communities - Stratford, Burlington, Brampton and Ottawa - are required to develop a community energy management plan to guide local energy activities. The completed plan contains a description of local energy use patterns; energy goals, objectives and targets; policies to guide actions; strategies for implementing policies; and mechanisms for monitoring and reviewing.

Community Energy Action Projects

The four community-based energy action projects - Energy Savers Peterborough, Toronto Energy Conservation Community Outreach, the Peel Urban Energy Centre and the Richmond Hill Energy Information and Conservation Centre - involve the implementation of a variety of community energy conservation projects. They focus on the delivery of energy conservation information with special emphasis on "hands-on" knowledge and give other communities an indication of the wide range of energy projects which are possible.

Although several of the eight projects are not yet complete, a great deal of progress has been made and some interesting experiences encountered. Each community has gone about its tasks in an innovative way, has encountered unique problems and has proceeded to achieve its own successes. In some cases, new concepts and projects, not contained in the original proposal, have evolved. In all cases, participants have learned a great deal about energy management and conservation at the local level.

Case Studies Available

Eight Community Energy Action projects are described in detail in a series of Energy Action: Communities at Work case studies published by the Ontario Ministry of Energy. This separate introduction to the eight case studies and case study on the Heat Save thermal photography program complement the series.

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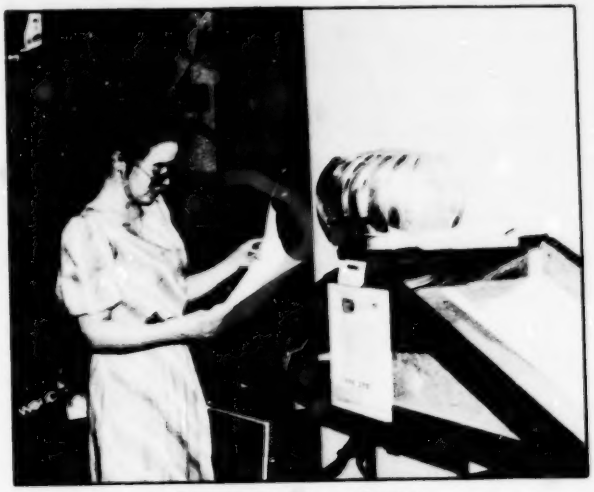

By Spring 1983, 87,000 people had received free consultation that could save them up to 25 per cent on home heating.

The Heat Save Program

Something unusual was going on in the cold, clear skies over Cambridge on the night of November 16, 1982. While most of the city's residents slumbered unsuspectingly in their warm houses, a plane belonging to the Ontario Ministry of Natural Resources was carefully taking "heat pictures" of city rooftops, lying 460 metres below.

Cambridge had just become part of the Ontario Ministry of Energy's Heat Save Program.

Since the five-year, $4.9 million Ontario Government program was launched in September 1980, 27 Ontario communities have received the Heat Save service.

How does the Heat Save program work? First of all, on a night when the atmospheric conditions are just right, aerial thermograms are taken of the residential sections of a community. A thermogram is a sort of temperature map which reveals varying levels of infrared energy emission. Thermography operates on the principle that all objects, both natural and man-made constantly emit infrared energy. Ontario is a world leader in the development of aerial thermography for community energy saving programs.

Infrared energy radiated from the houses is transformed into small electrical impulses by an infrared line scanner. The impulses are then amplified and recorded on magnetic tape. After the flight, the tape is processed to produce a film image which ranges in tone from white through black. The darker the image, the less heat is being emitted. Slides of the thermograms are used at the Heat Save clinics.

Residents of each community are introduced to the program and encouraged to attend the Heat Save clinics through advertising and media coverage. They are asked to come armed with their most recent annual heating bills and the floor area (in square metres or feet) of their home which is heated.

During the two to three weeks a clinic is open in each community, a homeowner visiting the clinic can see if their attic insulation is working properly.

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Based on each homeowner's known annual heating bill and heated floor area, an "energy efficiency" rating, which is the energy consumed per square metre or square foot, is determined. After interpreting the thermograms and analyzing the data brought by the homeowners, Heat Save staff then advise homeowners how to improve the energy efficiency of their homes. Staff look for the most practical, low-cost measures which homeowners can implement.

So far, more than 87,000 people in Ontario have visited Heat Save clinics. When the program is complete, an estimated 175,000 people will have received personal energy conservation advice.

Heat Save encourages homeowners to save energy by showing them they can save money. Each homeowner who visits a clinic could cut down on his heating fuel consumption by 20 to 25 per cent, by following Heat Save advice, and if even half of those attending the clinics conserve this much, the overall savings will be impressive.

Unlike many energy programs, Heat Save is personal and direct. The one-on-one advice offered by the clinics helps to motivate people by providing specific, tailor-made guidance. In addition, the thermography itself attracts many people since seeing a "heat picture" of your home is a novelty.

Heat Save, like other energy conservation projects that involve citizens directly, is showing just how effective this personal approach to energy conservation can be.

Five-Year Schedule

Heat Save Program

Visited to Spring 1982	Sudbury	Midland (including Penetanguishene)	Fall 1983 and Spring 1984	Hamilton	Guelph
	Belleville	Brockville		York	Vaughan
	Pembroke	Cobourg		Timmins	Kenora
	Brantford	Port Hope		East York	Etobicoke
	St. Thomas	Thunder Bay		Oakville	Markham
	Orillia	Woodstock		Richmond Hill	Trenton
		City of Toronto (60%)	Fall 1984 and Spring 1985	Oshawa	Dundas
Fall 1982 and Spring 1983	Whitchurch-Stouffville	City of Toronto (40%)		Waterloo	Kitchener
	Lincoln	Cambridge		Port Colborne	Welland
	Grimsby	Barrie		Aurora	Simcoe
	Ottawa, Vanier & area	Owen Sound		London	Leamington
	North Bay	Thorold		North York	Scarborough
	Niagara Falls	Niagara-on-the-Lake	Fall 1985 and Spring 1986	Windsor	Burlington
		Whitby		Sarnia	Chatham
				Wallaceburg	Newmarket
				Kapuskasing	Mississauga
				Brampton	Fort Erie
				Ajax	Pickering

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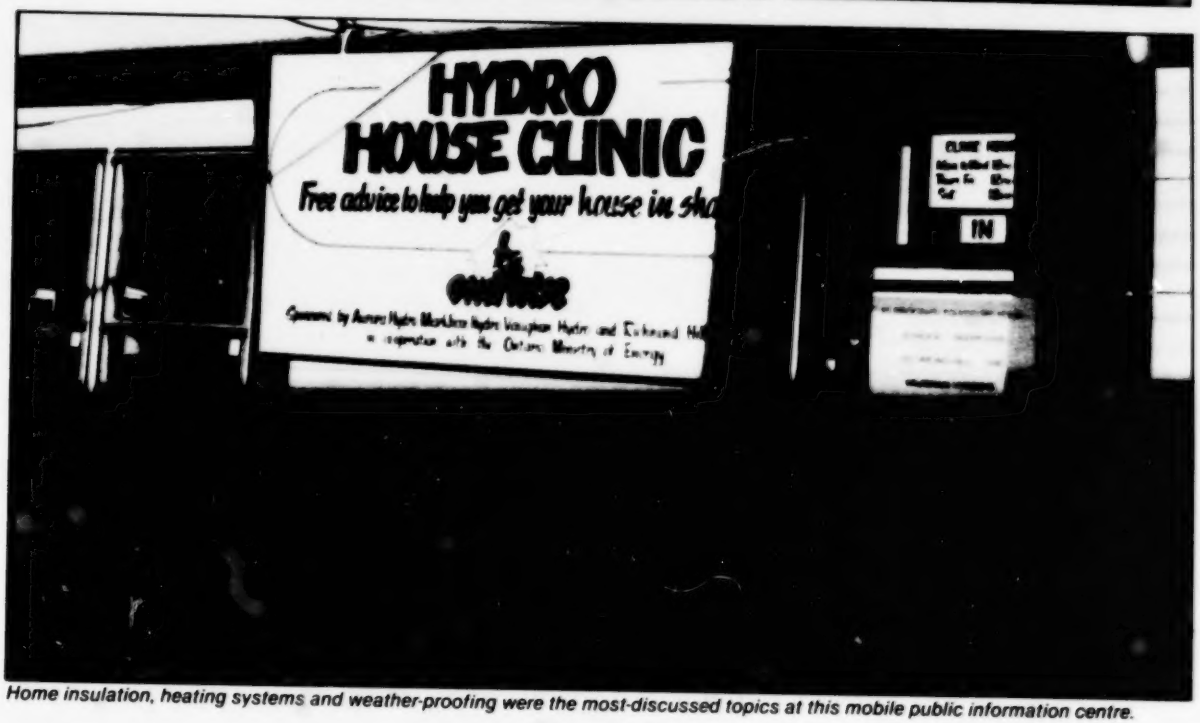

Home insulation, heating systems and weather-proofing were the most-discussed topics at this mobile public information centre.

Richmond Hill's Energy Information and Conservation Centre

More than 1,500 energy-related enquiries have been received in recent months by Richmond Hill Hydro. This activity stems from the mobile Energy Information and Conservation Centre which toured the Town of Richmond Hill and the surrounding communities of Markham, Vaughan and Aurora for a six-month period last year.

Coordinated by the staff of Richmond Hill Hydro and with funds from the Ontario Ministry of Energy and the participating local utilities, the Centre provided a central location where individuals could obtain information on a broad range of energy conservation topics. To staff the Centre, Richmond Hill Hydro hired experienced retired Ontario Hydro personnel. Information was available on all aspects of home energy conservation and efficiency.

From February through August, 1982 and housed in a large converted mobile home, the Centre visited Aurora Plaza, Hillcrest Mall, Markville Plaza and Woodbridge Arena in the Town of Vaughan. More than 4,000 visitors, many of whom came from locations outside these areas, signed the Centre's guestbook.

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Home insulation, weatherproofing and home heating equipment were of greatest interest to visitors. Window blankets, water heater blankets, lowering household thermostats and hot water pipe insulation also attracted considerable attention. Visitors also demonstrated an interest in details of government programs such as the Canada Oil Substitution Program (COSP) and the Canadian Home Insulation Program (CHIP) as well as the Residential Energy Advisory Program (REAP) provided by the electrical utilities.

Of the enquiries received about home heating equipment alternatives, about 50 per cent concerned heat pumps, 25 per cent were about electric furnaces and 25 per cent about plenum heaters.

The trailer also displayed three types of insulation. Eighteen manufacturers of energy conservation equipment were represented with free literature. Publications were also available on related topics such as van and car pooling, energy-efficient driving habits, alternative transportation and heating fuels, solar heating and energy-efficient homes.

Prior to the opening of the Energy Information and Conservation Centre, advertisements were placed promoting the trailer as a free "Hydro House Clinic". Over the six-month period, local newspaper coverage was received and several radio and TV interviews were arranged. Posters were placed in malls, community buildings and in each of the four utilities involved.

Summary

The trailer's positive impact has been measurable in several ways.

1. All four utilities recorded a substantial increase in enquiries as visitors to the Energy Centre made follow-up calls for more information. As a result, Richmond Hill Hydro staff are now more familiar with customers' concerns about energy efficiency.
2. Ontario Hydro's Inspection Office reported to Richmond Hill Hydro that a number of area customers converted their heating systems "off-oil". Some of these were the result of energy-awareness generated by the trailer. These conversions continued through the fall of 1982.
3. Richmond Hill Hydro reported a KWH consumption drop of approximately 3.5 per cent from the previous year. Although many factors contribute to a decrease in energy consumption, this particular instance was at least in part due to conservation information made available through the Centre.
4. A spirit of cooperation has grown between the utilities. Jointly, they will be sponsoring further conservation programs based on the detailed knowledge they have acquired about the concerns of ther respective communities.

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Stratford's community energy management group created public awareness of the program through auto-check clinics.

Stratford's Community Energy Management Plan

Situated in the middle of southwestern Ontario's prime agricultural area, Stratford was originally a railway centre serving the region's farming industry. During the last 25 years, however, local economic activity has diversified. In addition to tourism, centred on Canada's renowned Shakespearean Festival, Stratford has developed a small industrial base primarily related to the automotive industry.

The people of Stratford are an active group. They have a history of involvement in service clubs, cultural and historical societies and religious organizations. Stratford residents also take great pride in their beautiful city, with its compact, attractive and well organized downtown area.

Each fall for the past ten years Stratford has hosted an Energy Week to raise community awareness of energy conservation and renewable energy. The community has also been promoting paper and glass recycling projects. To enhance these established community activities, the people of Stratford decided to develop a Community Energy Management Plan under the Ontario Ministry of Energy's Community Energy Management Demonstration program. The one and one-half year CEMP project was launched in May 1982.

The Project

Stratford approached the plan's development in six phases: committee formation and start-up; issue identification; data collection and analysis; plan formation; community outreach and plan amendment; and plan implementation.

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The first step in the process was the establishment of a 20-member steering committee, consisting of an energy co-ordinator (a city alderman); two representatives from the ten-year-old Energy and Environment Committee; two representatives from City Council; the City Engineer; a representative from the Inter-Service Clubs Committee; two representatives from the Chamber of Commerce; a representative from each of the two local school boards and five interested members of the community.

Committee membership was diversified to ensure a broad representation of interests and skills. City Council members were included to facilitate council co-operation in approving and implementing the project.

The steering committee first identified six basic objectives which would be incorporated into the final plan:

1. maximize overall energy efficiency;
2. maximize energy efficiency through oil substitution;
3. promote citizen involvement in energy management;
4. promote visitor awareness of and involvement in energy management;
5. direct energy management efforts into co-ordinated community programs specific to Stratford; and
6. establish an energy management program methodology to serve as a guide for other communities.

To assist the steering committee in its work, five subcommittees were formed. Each subcommittee was assigned responsibility for a specific sector: buildings, transportation, visitor impact, waste management and communications.

Since the project was launched, an energy profile of Stratford was conducted and a demonstration project organized. Also, several community energy events, including vehicle emmision tests and tire pressure clinics have been held to promote the CEMP process. An energy centre in the Building Department of City Hall has also been opened to provide information about energy conservation to the public.

Energy Week

Stratford's 1982 Energy Week was co-sponsored by the Ontario Ministry of Energy and the Perth Energy Society. It featured a low-energy supper, a mall display and CEMP logo contest. As an annual event Energy Week has proven to be an effective way of conveying the energy conservation message to the public.

To publicize both Energy Week and the CEMP project, Stratford's **Beacon Herald** produced a special issue on energy. Based on the large number of participants and on the interest displayed by those who attended, Energy Week will become an integral part of Stratford's community energy management efforts.

Demonstration Project

The Stratford steering committee is also exploring the economic feasibility of turning wood and possibly garbage into fuel. Stratford has been involved with recycling projects for several years, and wanted to expand its activities in this area. Fuel pellets are currently processed in Ontario and are commercially available in some parts of the province. This project was inspired by the presence of a local livestock feed pellet mill which, typically, lies idle for ten months of the year.
The committee received an enthusiastic response when it approached the local livestock feed company with the idea of using the company's feed pellet mills to manufacture fuel pellets during the off months. The company is now conducting experimental runs to determine the economic feasibility of wood pellet production. If successful, experiments may also be conducted to examine the feasibility of converting garbage into fuel pellets.

Summary

The progress made to date on the Stratford Community Energy Management Plan is promising. The experience gained, combined with the strong commitment and determination of the people involved is bound to carry the project through to a successful completion.

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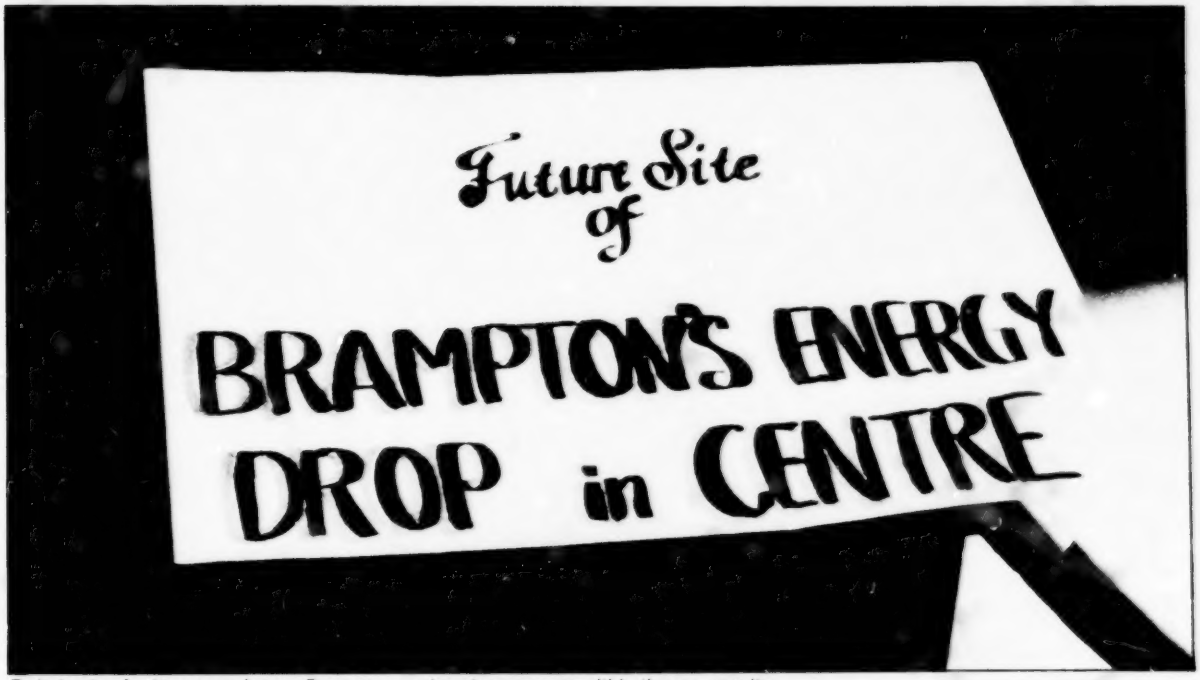

To help plan for its energy future, Brampton analysed energy use within the community.

Brampton's Community Energy Management Plan

Brampton, just northwest of Metropolitan Toronto, represents an interesting mixture of the new and the old. While it is one of Ontario's oldest settlements – dating from 1827 and incorporated as a town in 1857 – it is also one of the newest.

Brampton's population grew rapidly after World War II and virtually exploded during the 1970's. In 1974, Brampton was amalgamated with three surrounding communities to become the present City of Brampton.

The exceptionally rapid growth of Brampton's population created a community dominated by new homes. Ninety per cent of Brampton's housing units are less than 23 years old. Because of this predominance of new homes, 69 per cent of space heating requirements are met by natural gas. Therefore, unlike many older communities, home heating is not a major consumer of crude oil in Brampton.

Although Brampton is still growing quickly – a full 43 per cent of the city's land area is designated for urban development – much of its growth occurred when energy was cheap and the economy booming. People weren't too concerned about distances then because almost everyone could afford to own and operate a car. Consequently, rapid growth resulted in urban sprawl and "leap frog" development.

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Until seven years ago, Brampton didn't have a public transit system. Established in 1976, Brampton Transit has substantially increased its ridership.

Brampton is often referred to as a "bedroom" community. Over one half of the Brampton labour force commutes to Metropolitan Toronto. Not surprisingly, Brampton has come to rely very heavily on the private automobile.

High gasoline consumption has cost the people of Brampton dearly during the last few years. Transportation accounts for about 30 per cent of the total energy consumed in the community. Brampton's industrial sector, heavily weighted towards the manufacturing, wholesaling and construction industries, is also a major energy consumer. With a sense of urgency, Brampton's City Council realized that energy conservation steps had to be taken before Brampton's population of 141,000 tripled, as is expected when Brampton reaches maturity.

The City of Brampton, through its Municipal Energy Committee, had already taken a number of energy conservation initiatives. The Ontario government's Drive Propane program was used to help convert all new municipal vehicles to propane. A municipal energy technologist was hired under the Ontario Municipal Energy Audit Program (MEAP) to audit and assess energy consumption in municipal buildings. The City of Brampton was also the first municipality to adopt a zoning bylaw provision to regulate the design of solar-oriented residential units. Brampton's official plan contains a number of energy conservation policies.

To sustain the momentum established by these Municipal Energy Committee initiatives, the City of Brampton decided to develop a plan to manage energy consumption at the local level. The City applied for and received funding from the Ontario Ministry of Energy under the Community Energy Management Demonstration program.

The Brampton Community Energy Management project was launched in July 1982 with the appointment of the Energy Management Steering Committee comprising members from a broad spectrum of organizations. In addition to an energy auditor, committee members included representatives from the Municipal Energy Committee, the City's Planning and Development Department, the Urban Energy Centre, Sheridan College, Brampton Hydro, Consumer's Gas, the Ontario Petroleum Association, local business associations, a local citizens' advisory committee, City Council and the Region of Peel.

The Committee's first task was to hire an Energy Manager to develop the project and co-ordinate existing activities. The second task was to set out project objectives. These were:

1. Collect information on community energy use;
2. Develop a Community Energy Management Plan to:
    a) identify measures and policies for energy management in municipal operations, land use planning and community action,
    b) analyze potential impact of these measures and policies,
    c) set out measures and policies to be implemented and identify short and long-term strategies, and
    d) incorporate selected groups, organizations and local agencies into plan development and identify their role in project implementation.
3. Co-ordinate energy activities in the City of Brampton;
4. Liaise with the Urban Energy Centre at Sheridan College's Brampton Campus.

To meet these objectives, the project was divided into three phases: information collection and analysis of community energy consumption patterns; development of a tracking model for energy consumption patterns to allow policy assessment; and development of the community energy management plan. A detailed workplan was produced and three target areas identified: energy management in municipal operations, energy management in land use planning; and community action (to increase public awareness of energy conservation).

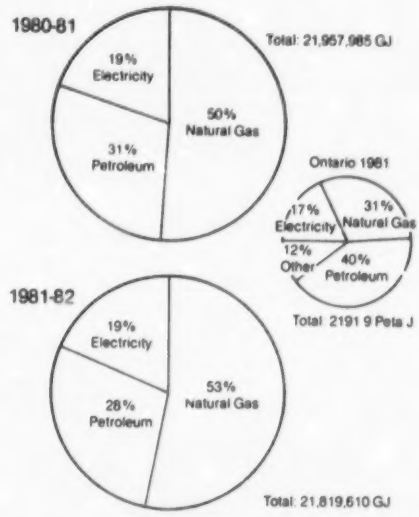
During the first eight months of phase one, information on community energy consumption - by fuel type, sector and subsector - was collected. From analysis of this data, it was apparent there were fuel types, sectors, subsectors and end uses for which information was unavailable or unreliable.

Other methods of obtaining this information were examined and the task force decided to undertake surveys of industrial, commercial and residential consumers. The surveys would not only obtain a better perception of energy consumption by subsector and end use, but also help to determine the acceptance of energy conservation measures by firms and individuals. Results from the survey of the industrial, commercial and residential sectors are expected by the fall of 1983.

In addition to the development of an energy use profile, initiatives were undertaken in the three target areas.

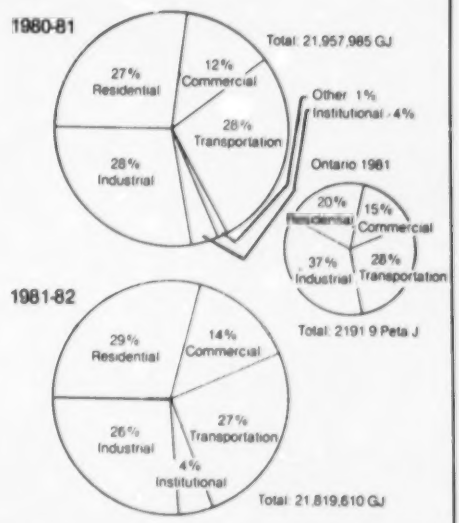
Energy Consumption by Fuel Type

Diagram 4



Energy Consumption by Sector

Diagram 5



To help plan for its energy future, Brampton analysed energy use within the community.

Municipal Operations

The following steps were taken to reduce energy use in the City of Brampton's operations.

1. A delamping and a waste paper recycling program were undertaken in the Civic Centre offices;
2. An energy data base and a quarterly reporting computer program were developed for city-owned facilities;
3. An application was submitted to the Ministry of Energy's Municipal Energy Conservation and Oil Conversion Program to permit three city facilities to convert to natural gas heating;
4. A budget to weatherize all city-owned facilities was prepared and presented to a budget committee.

Land Use Planning

The following two initiatives were implemented to improve energy efficiency through land use planning:

1. Studies prepared under the Ontario government's Energy Conservation Through Land Use Planning Grant program were reviewed for applicability to Brampton.
2. A proposal for funding under the Energy Conservation Through Land Use Planning Grant program is now being prepared.

Community Outreach

The Urban Energy Centre, housed in the Enercon Building on the Brampton Campus of Sheridan College, is the primary delivery agent for the community outreach efforts of the Brampton project. The centre offers and promotes energy courses, seminars and workshops to general and special interest groups in the Regions of Peel and Halton; provides a focus for energy-related activities; facilitates information exchange between interested groups and individuals; and maintains an up-to-date energy resource centre.

The Urban Energy Centre has already managed several specific projects including a series of workshops on air leakage, alternative energy sources, wood stoves and insulation. It has also conducted house warming parties in co-operation with Brampton Hydro.

Housewarming parties are three-hour "hands-on" demonstrations which show homeowners how to handle and apply weatherstripping, caulking, and insulation materials and how to build simple retrofit features. The parties are described in more detail in the Riverdale Energy Conservation Community Outreach (ECCO) Case Study, which is part of this series.

The Urban Energy Centre in co-operation with the City of Brampton is organizing an Energy Awareness Month in the Fall of 1983. The Centre is also promoting energy conservation for religious buildings in the area. The industrial sector is also currently receiving assistance from the Centre to set up energy conservation programs.

Brampton Hydro is co-operating with the Centre by conducting energy surveys of local homes. As part of the Residential Energy Advisory Program (REAP), qualified Brampton Hydro personnel assess home insulation levels, ventilation, the condition of weathwerstripping and caulking and the need for storm or thermal windows and doors. By the end of March 1983, over 1,200 Brampton homes had been surveyed and the results fed into a residential energy use profile.

Summary

The Brampton project is still in its early stages. The Steering Committee is analyzing the results of the industrial, commercial and residential sector energy use profiles to determine those areas where further action is required.

As the project progressed, it became obvious to the organizers that the development of a community energy management plan does not occur in a one-step-at-a-time fashion. Activities occur simulatneously. The value of conducting an energy profile also became apparent. Brampton's initial profile enabled the steering committee to identify key energy consumers and to develop some preliminary energy conservation programs. Feedback from these programs, in turn, helped to expand and modify the energy profile data base. All of these activities are expected to lead to the development of an effective, well-received energy action plan.

The experience of the Brampton Community Energy Management Plan also revealed that co-ordination and co-operation are key to effective program delivery. The municipality, local groups and agencies must all work together to ensure program success. The project is progressing well. With the continued hard work of the project's participants, the development of a thorough, effective plan is assured.

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ENERGY ACTION
Communities at Work

Case Study

Ontario
Ministry of Energy
Honourable Philip Andrewes
Minister

Energy Ontario

September, 1983

Free seminars and a storefront information depot were part of Burlington's community energy management planning project effort.

Burlington's Community Energy Management Plan

Burlington and cities like it are sometimes referred to as dormitory communities. Serving as home for families wishing to avoid the expense, noise and fast pace of larger urban centres, such suburban communities became particularly popular during the 1950's, 1960's and early 1970's.

Burlington's population doubled during this period. Of course, with the cheap price of gasoline in those days, there was little concern for the distances people had to travel to go to work, to shop or to visit friends. As a result, Burlington is now characterized by a series of low-density industrial, commercial and residential developments.

Times have changed, though. Gasoline has become expensive, the costs of car operation have increased.

The City of Burlington has recently been looking for ways to reduce energy consumption, particularly in the transportation sector.

Burlington has been actively promoting energy conservation for more than four years. The seed of the Community Energy Management Plan project was planted in 1979, when the City commissioned an energy audit and report on municipal buildings to determine where energy savings could be achieved. At the same time, an Energy Conservation

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The series traces the experiences of different communities in the development, organization and implementation of energy projects. The series is not prescriptive, but rather illustrates ideas and processes which participating communities have developed to date. It serves as a guide which other communities may use to help them initiate their own local energy programs.

Committee, comprising members from all City departments, was created to review and implement the report's recommendations.

On the basis of the energy audit, the City decided to reduce energy consumption in public buildings. From June 1979 to May 1980, consumption was to be reduced by 10 per cent compared to the previous year. The results, however were better than expected. More than 15 per cent savings were achieved through the implementation of several cost-effective conservation measures. To maintain the momentum, a program to monitor yearly energy consumption for all municipal buildings was established.

This initial success story encouraged the City to look at energy-conserving programs for other municipal operations. Smaller, more energy-efficient fleet vehicles were purchased and the engines of three vans were converted for propane use. If the vans prove to be cost-effective, the City plans to purchase only propane-fuelled vehicles in the future.

The City of Burlington also established the Planning Subcommittee to examine opportunities for energy conservation through land use planning. The site plan and subdivision approval processes, as well as the City's Official Plan and Zoning By-Law, were examined by the subcommittee for ways to incorporate energy concerns.

Although the City of Burlington was very active in promoting energy conservation at the local level, and there was obviously no shortage of local enthusiasm and expertise, the program lacked a co-ordinating body and an overall plan. Based on its proposal, Burlington was selected to participate in the Ontario Ministry of Energy's Community Energy Management Demonstration program, which assisted four municipalities to prepare long-term energy management plans.

The Project

Burlington's energy management plan addresses three areas: municipal operations; land use planning; and community outreach.

The final plan sets out policies and strategies to guide energy conservation efforts in the three target areas. To ensure maximum effectiveness, the plan is based on a survey of local attitudes and energy-consumption behaviour, as well as on a community energy use profile.

Municipal operations and land use planning were examined by the existing Energy Conservation Committee. A new committee, (the Burlington Energy Action Committee) was responsible for community outreach activities. Plan preparation was coordinated by an energy office, which also acted as a community resource centre.

In early April 1982, a project manager and a project assistant were hired and the Burlington Energy Action Committee was established. Through newspaper advertisements, a ten-member committee - comprising six citizen representatives, two school board representatives, one alderman, and a former chairman of the Energy Conservation Committee - was selected to advise City Council and the project manager.

Although it had become standard practice in the United States to develop community energy management plans from a detailed analysis of a community's energy consumption patterns, Burlington decided to strike out in a new direction. The accepted practice often drained limited resources and, while these profiles drew an accurate picture of energy use patterns, the studies failed to point the way to cost-effective energy conservation measures.

Instead of spending time collecting detailed data on energy supply and demand in the community, the City of Burlington decided to conduct an energy profile after a set of preliminary objectives and programs had been established. In this way, the profile could help refine the objectives and programs and lead to the preparation of a final plan.

The profile included the following data:

1. 1981 data on energy consumption by sector and fuel type based primarily on information from energy suppliers and, where necessary, on estimates.
2. Factors (such as age of housing, types of industry) affecting energy conservation potential in various sectors.
3. A catalogue of resources, including government programs, community groups and local newsletters, which can help implement community energy management programs.
4. Results of a survey of community attitudes and behaviour regarding energy conservation, with special attention to the residential and transportation sectors that are large energy-consumers.

Summary of Plan

The Community Energy Action Plan was submitted to the City of Burlington in July 1983. Approval of the Plan by Council is expected in the Fall of 1983. The plan consists of three major sections and six subsections:

1. Civic Operations
2. Land Use Planning
3. Community Outreach
    a) Residential
    b) Transportation
    c) Commercial
    d) Industrial
    e) Education
    f) Religious and Social Service Organizations

Each section and subsection includes a discussion of the potential for energy conservation, objectives and the programs designed to achieve the objectives. A rationale for the objectives and the description of a monitoring method are included where applicable.

A special invitation to save energy & money
Presented by:
The City of Burlington
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Upper Canada Place, 460 Brant St.
Open 8:45-4:30 Mon.-Fri. 681-2941
HOME ENERGY RETROFIT SEMINAR
Tuesday, Oct. 26, 1982, 7:00 PM
BURLINGTON CENTRAL LIBRARY
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Ecology House Staff will present a seminar on how you can reduce your heating bill. Learn how to CAULK, WEATHERSTRIP and INSULATE.
The Movie OLD HOUSE, NEW HOUSE will show you how a drafty Victorian home was transformed into the energy efficient showplace Ecology House.
WOOD HEATING SYSTEMS SEMINAR
Tuesday, Nov. 2, 1982, 7:00 PM
BURLINGTON CENTRAL LIBRARY
2331 New St., Seminar Room
Energy, Mines and Resources Canada staff will present a seminar on the selection, installation, operation, and maintenance of wood heating systems. Fire and Building Department staff will also be available to answer your questions. This is your opportunity to ensure that your wood heating system is safe.
2 Free Energy Seminars
2 Free Energy Seminar
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460 BRANT STREET
BURLINGTON
335-7810

1. Civic Operations

Background

The energy-efficiency of many municipal operations improved significantly after the Energy Conservation Committee was established in 1979. Most of the measures taken were inexpensive or cost nothing at all. The measures included educating municipal staff, lowering thermostat settings in winter and raising them in summer, downsizing municipal vehicles and fuelling municipal vehicles with propane.

Most of the easier and less expensive measures have been taken, but still greater savings are sought. By incorporation into City policies, energy conservation must become an integral part of the day-to-day operations.

Objective 1 To integrate energy conservation into all levels of the City's daily operations.

Programs

- Produce a brochure outlining the City's commitment to energy conservation and listing employees' responsibilities.
- Review City's policy manual to determine changes needed to make it support energy conservation goals.
- Develop energy-related guidelines for the construction of new City buildings.

2. Land Use Planning

Background

Once land use patterns are established, there is little room for change. Ideally, energy conservation should be considered when a building is being located and designed. For example, once constructed, buildings cannot be re-oriented or easily modified to take advantage of heat from the sun.

Objective 1 To encourage energy-efficient urban development within Burlington.

Programs

- Include an energy conservation policy statement in the Official Plan.
- Make energy conservation a prime consideration in the development of a new Official Plan.
- Develop a work plan for the study of energy conservation in land use planning.
- Explore the use of government funding programs (specifically the Ontario government's Energy Conservation Through Land Use Planning grant program).

3. Community Outreach

a) Residential

Background

The residential sector is the second largest energy user in Burlington.

Although Burlington's housing stock is relatively new - only one third of it was built before 1960 - the current Ontario Building Code standards for insulation have applied only since 1978 and no insulation whatsoever was required before 1976. Up to 96 per cent of Burlington's building stock could fail to meet current standards. Upgrading the energy-efficiency of Burlington's housing stock could therefore result in significant energy savings.

In keeping with the philosophy that citizens should help to make the decisions that affect them, the Burlington Energy Action Committee sent a questionnaire to homeowners. The results show that considerable energy savings can be achieved by increasing furnace efficiency, by sealing and insulating houses and by changing habits such as lowering thermostats and hot water settings.

Objective 1 To inform City residents of ways to conserve energy in the home.

Programs
- Establish an energy information centre.
- Organize seminars on home conservation.
- Prepare a newspaper column on energy conservation which will appear in local newspapers throughout the heating season.
- Establish an energy conservation week to be held each fall.
- Establish a central index and display on energy conservation (both to be available through the Burlington Public Library).

Objective 2 To inform residents of government assistance programs which help alleviate the costs of energy conservation measures.

Program
- Publicize government programs through news media and community groups and organizations.

Objective 3 To inform prospective home-buyers of the energy-conserving features that should be considered when choosing a home.

Program
- Provide energy-efficient housing information through area real estate offices.

Objective 4 To help residents determine whether energy conservation renovations have been carried out properly.

Program
- Provide inspection service for homeowners who have had energy-related renovations done in their homes.

Objective 5 To promote recycling as an energy-conserving habit.

Program
- Publicize the City's recycling program through the news media and local organizations.

Objective 6 To provide the public with information on all available energy sources, to help them make intelligent choices among energy options.

Program
- Information on alternative heating fuels to be made available through the Energy Information Centre.

b) Transportation

Background

The transportation sector is Burlington's largest energy user, accounting for about 41 per cent of all the energy used in the city.

Cars are almost a necessity. There is approximately one car for every two people in Burlington and the average annual consumption of gasoline per household is a high 4,160 litres (915 gallons). A five per cent reduction in the estimated 8 million litres (about 1.8 million gallons) of gasoline consumed annually would result in an annual savings of approximately $3.2 million (assuming gasoline costs about 45 cents a litre).

Objective 1 To promote increased transit ridership.

Programs
- Publicize the cost advantage of taking transit.
- Publicize the City's fare integration program with Go Transit.

Objective 2 To promote the use of car and van pools

Program
- Contact firms with large numbers of employees and encourage them to organize employee pooling schemes.

Objective 3 To improve the driving habits (which affect fuel efficiency) of city residents.

Program
- Organize a publicity campaign through local news media and the Energy Information Centre; and make information available to all driver training programs.

Objective 4 To increase the fuel efficiency of all vehicles driven in the city.

Programs
- Distribute information about car care and mileage through the news media and the Energy Information Centre.
- Organize and publicize car tune-up week - to be held each spring and fall.

Objective 5 To promote the use of more fuel-efficient vehicles.

Program
- Organize and implement a publicity campaign.

Objective 6 To promote walking and cycling as alternatives to the automobile.

Program
- Promote the use of the city's bikepath network.

Objective 7 To promote implementation of flexible working hours.

Program
- Organize and implement a publicity campaign.

Objective 8 Provide information to the public about alternative transportation fuels.

Program
- Distribute information about federal and provincial government alternative transportation programs to all fleet operators.

c) Commercial

Background

The commercial sector in Burlington accounts for about 18 per cent of the total energy consumed. The potential for energy conservation in this sector is difficult to determine because building design and function vary widely. Energy conservation in this sector is best served by ensuring that the information required to carry out conservation measures is readily available.

Objective 1 To increase awareness of relevant government assistance programs.

Program
- Distribute information on government assistance programs through the Burlington Chamber of Commerce's publication, *Review*.

Objective 2 To encourage businesses to initiate an energy conservation program.

Programs
- Through the Burlington Chamber of Commerce and the Energy Information Centre, distribute a publication about how to start an energy conservation program.
- Circulate a series of articles on energy conservation programs to local news media.

Objective 3 To promote recycling among local businesses.

Program
- Distribute promotional literature about paper recycling to all Burlington firms and office complexes.

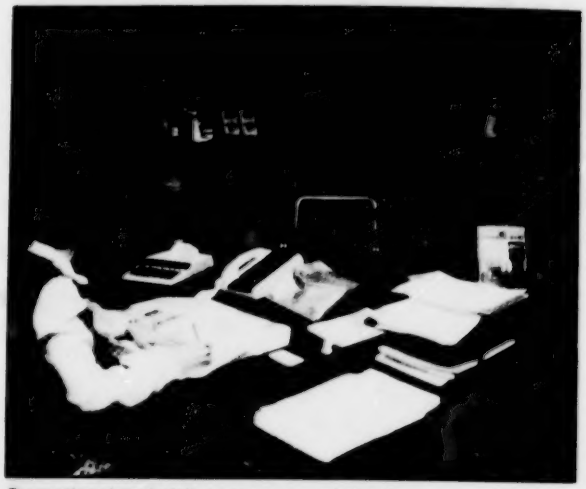
d) Industrial

Background

The industrial sector accounts for about 12 per cent of all the energy consumed in Burlington.

Objective 1 To increase awareness of government programs relating to energy and industry.

Program
- Distribute outlines of relevant government programs on an annual basis.



Promotional materials encourage participation.

e) Education

Objective 1 To work with the local school boards and other levels of government to expand and improve the level of energy conservation education in City of Burlington schools.

Programs
- Make a catalogue of energy conservation information available to all school areas.
- Establish a Conservation Award to be presented to the student with the best energy conservation project at each school's Science Fair.

Objective 2 To encourage firms to establish energy conservation programs.

Program
- Provide reference material with the City's *Directory of Industries*.

Objective 3 To promote recycling among Burlington industries.

Programs
- Distribute required information to Burlington industries.
- The City will petition the Ontario Ministry of Energy to incorporate energy conservation units into appropriate course guidelines.

f) Religious/Social Service Organizations

Background

Numerous buildings in Burlington belong to service or religious institutions. Many have been severely affected by the high cost of heating.

Objective 1 To increase awareness among religious and social service organizations of government programs related to energy conservation and renewable energy.

Program
- Mail literature on available government grant programs to all qualified organizations.

Objective 2 To encourage religious/social service organizations to start an energy conservation program.

Program

- Organize a seminar on conservation programs for religious and social service organizations, with assistance from the Ontario Ministry of Energy's Energy Savings in Religious Buildings program.

Summary

The City of Burlington is still in the midst of establishing many of its energy programs. The Energy Information Centre, opened in April 1982, answered more than 1,300 inquiries in the first year of operation which is a very positive indication of the level of interest in the project. In addition, a great deal has been learned during the development of the plan.

Burlington's concept of first establishing a set of objectives and programs, and using the profile to refine them, proved to be a worthwhile approach.

The Energy Conservation Committee and the Burlington Energy Action Committee were faced with the challenge of choosing programs. Program decisions concerning City buildings and vehicles are relatively straightforward because they can be made on an objective cost/benefit basis.

Choosing community outreach and land use planning programs is not such a simple task. Frequently, such programs do not offer an immediate economic return to the municipal corporation. While benefits often accrue to residents and businesses, the benefits may be difficult to quantify, particularly before the program is implemented. Some benefits only become apparent after implementation.

Although it is difficult to evaluate land use and community outreach programs in terms of a strict cost/benefit analysis, the two Burlington committees chose programs promising maximum social and economic benefits at a minimum cost.

The committees also had to choose between two implementation approaches - regulation and education. Through creating and enforcing regulations, a municipality can ensure that all structures within municipal boundaries are planned in an energy-efficient manner.

The regulation approach, however, obviously has its drawbacks. Regulations are not only expensive to develop and administer, and difficult to enforce, but they also tend to generate public opposition to change.

Education and encouragement on the other hand, tends to engender a positive, co-operative and productive attitude.

The programs outlined in Burlington's Community Energy Management Plan, therefore, do not seek to regulate energy conservation in the community, but to give local residents the information and encouragement required to allow them to make responsible decisions about their energy future.

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ENERGY ACTION
Communities at Work

Case Study

Ontario Ministry of Energy

Honourable Philip Andrewes
Minister

Energy Ontario

September, 1983

To serve the needs of the community, the energy action plan process emphasizes maximum public input.

Ottawa's Energy Action Plan Process

As the capital of Canada, Ottawa, with a population of approximately 300,000, has historically strived to set a good example for other Canadian municipalities. Its participation in the Energy Action Plan Process is no exception. Ottawa is one of the first municipalities in Ontario to accept the challenge of managing energy conservation in a co-ordinated fashion.

In 1979 the City of Ottawa established an Energy Advisory Committee to advise City Council on municipal energy issues and actions. The committee, a ten-member volunteer group appointed by Council, represents a wide range of skills, knowledge and community viewpoints.

In 1981, the Energy Advisory Committee approached City Council with a proposal for a three-year project to develop an integrated energy conservation plan for the City of Ottawa. Council approved the proposal, and with joint funding from the Ontario Ministry of Energy's Community Energy Management Demonstration program and the City of Ottawa, the City's Energy Action Plan Process was born.

Initially, the Energy Action Plan was to be developed in three phases – the residential sector during the first year, the commercial/institutional/industrial sectors during the second year and transportation during the third. However, as a result of public debate following release of the residential options, the Energy Advisory Committee decided to undertake the transportation phase concurrently with the commercial/institutional/industrial sector phase. Two rather than three phases resulted and approximately one and one half years were allotted to each. Phase one is expected to be completed by late 1983.

The development of the Energy Action Plans for each sector is directed by subcommittees appointed by the Energy Advisory Committee.

This is one in a series of Energy Action: Communities at Work case studies which has been prepared by the Ontario Ministry of Energy. The 10-part series (nine case studies plus an overview) reports on community energy projects which have been initiated with the assistance of the ministry.

The series traces the experiences of different communities in the development, organization and implementation of energy projects. The series is not prescriptive, but rather illustrates ideas and processes which participating communities have developed to date. It serves as a guide which other communities may use to help them initiate their own local energy programs.

The final plan for each sector will consist of two basic kinds of measures: those which can be undertaken directly by the City of Ottawa (by-laws, regulations, services, planning, education) and measures promoted by the City, but undertaken by other bodies such as the private sector, utilities, citizen groups and the provincial and federal governments.

The Energy Advisory Committee and City Council chose the residential sector as the starting point of the process primarily because of the great potential savings in this area. For example, in 1981, Ottawa's home energy bill (including electricity, gas and oil) totalled approximately $122.3 million. An estimated 20 per cent annual reduction in residential energy use could be attained by 1988, resulting in a yearly savings of about $24.5 million.

In addition, improvements in Ottawa's residential sector could bring substantial financial benefits to the municipality. Based on figures from an Economic Council of Canada study on job creation and home insulation, the Energy Advisory Committee estimated that insulating Ottawa's detached homes and duplexes could generate nearly 900 person-years of local employment in the insulation business alone. An increase in energy conservation retrofit projects would stimulate the business sector and decrease energy costs.

The Energy Advisory Committee was also interested in solving some of the shortcomings of existing residential energy conservation programs – specifically government assistance programs which do not apply to all types of residences and all improvements. Also, owners of residential buildings are often unsure if they are making the most cost-effective improvements or if the contractors they hire will do a competent job.

One of the main features of the Ottawa project is its emphasis on public participation. Ottawa citizens are active and interested in events which shape their lives, and the Energy Advisory Committee wanted to take advantage of Ottawa's record of public involvement. Therefore a Participation Subcommittee of 13 members was appointed to design and organize the public participation component for the residential section of the Energy Action Plan Process. The public participation model, used by the Ottawa experiment, was first developed by the City of Portland, Oregon.

The Energy Advisory Committee also appointed a Residential Subcommittee. The subcommittee was directed to carry out the following tasks:

1. Establish broad goals for the residential sector;
2. Identify options for action;
3. Develop a draft Energy Action Plan, including public hearings, analysis by the Energy Advisory Committee and plan consolidation;
4. Enter into debate and obtain City Council's approval of the residential sector's final Energy Action Plan.

One hundred and twenty thousand brochures, informing Ottawa and area residents of the Energy Action Plan Process for the Residential Sector, were circulated through Ottawa Hydro billings. In addition to publicizing the Energy Action Plan project, the brochures also solicited public comment on the process.

Residential Energy Options

The Residential Subcommittee completed the first draft of its plan in December 1982. The document entitled "Towards an Energy Action Plan for the Residential Sector" was mailed to a master contact list of individuals and local organizations. Homeowners' associations, tenant and co-op housing groups, cultural organizations and various other citizens' groups were included on the list. The report was also available to the general public. Upon receiving the draft plan, readers were asked to comment by filling out a questionnaire at the end of the document, by phoning or writing the project office and/or by making a presentation at a final public hearing.

"Towards an Energy Action Plan for the Residential Sector" addresses energy conservation in six areas: existing housing; new housing; land use planning; renewable energy; public education; and local economic development. Each area comprises recommendations concerning new City-sponsored services, regulatory measures and new approaches to municipal planning.

Highlights of the recommendations are as follows:

Existing Housing

- a one-stop energy centre to provide advice and assistance to Ottawa residents on home energy efficiency
- an energy bank to provide low interest loans for energy conservation work
- local administration of federal and provincial funding programs
- compliance with energy conservation measures with seven-year payback or less prior to resale of home
- compensation for property tax increases due to home energy efficiency improvements
- an energy-efficiency certification program
- special measures to assist tenants and landlords
- special measures to assist condominium owners

New Housing

- design guidelines with planning and zoning incentives to improve energy efficiency
- application of guidelines to all City-assisted developments
- a request by the City for authority to set mandatory energy efficiency standards for new housing
- special provisions for large residential buildings
- an energy efficiency certification and rating program for all new housing
- education of builders on energy efficient design
- limits on size of combustion equipment for energy efficiency reasons

Land Use Planning

- removing conflicts between retrofit measures and land use regulations
- reflection of energy concerns in site plans
- measures to protect solar access
- promotion of higher densities
- promotion of mixed land uses
- promotion of heat recovery and district heating

Renewable Energy

- a municipal renewable energy utility
- assistance to householders to adopt renewable energy technologies
- an energy policy on municipal garbage

City of Ottawa
Ville d'
TENANTS !
APARTMENT OWNERS !
HOME OWNERS !
Here's protection from energy bills
The Ottawa Energy Action Plan Process
What is it?
— a three-year project
— creating an Energy Plan for Ottawa
— using the ideas of Ottawa residents

A leaflet inviting public participation was distributed throughout the community.

Public Education

- energy efficiency awards and an Ottawa energy week
- an energy education officer be hired for the one-stop energy centre

Local Economic Development

- promotion of the local energy conservation industry
- support for the energy conservation industry
- development for the local infrastructure for an energy conservation industry

During the six months following circulation of the draft plan, the proposals were reviewed at a series of public meetings and council debates. Two related items, in particular, sparked public debate.

The first proposal concerned the mandatory energy efficiency standards. The Residential Subcommittee recommended that energy efficiency standards be written into Ottawa's property standards by-law, after establishment of the energy centre and an energy bank for five years. The proposal would require residential property owners to improve the energy efficiency of a house before it is sold.

Prior to sale, the proposed by-law would require a house to undergo an energy audit (provided free of charge) to identify all retrofit measures with a seven-year, or less, payback period. If a house were sold before the measures are in place, the house would be subject to encumbrance on clear title. The property could be sold, but a notice of outstanding work would apply and the new owner would be required, by the encumbrance, to do the work.

The proposed by-law would not be operational until an Ottawa energy bank and a full-service energy centre were established. While financing for the mandatory retrofit would be available through low-interest loans from the bank, the energy centre would help homeowners undertake the required energy conservation measures by arranging for contractors, by providing technical information and by assisting homeowners in processing grant applications.

Public response to the draft plan was lively, with many views opposing the proposed mandatory efficiency standards. Ottawa and area newspapers were filled with Energy Plan stories and a local radio station staged three hot-line programs on the energy options recommended.

More than 235 people attended public meetings on the Energy Action Plan. In addition, eighteen community and special interest groups were invited to meet with the Energy Advisory Committee and the Residential Subcommittee to present their views. Twenty-two group and individual submissions and eighty-eight letters and questionnaires were received by the Energy Advisory Committee.

Based on the views expressed by various segments of the public, the Energy Advisory Committee is currently revising the proposed Residential Energy Action Plan. The revised plan will be presented to City Council for approval in the fall of 1983.

The publicity surrounding the Residential Energy Action Plan options has made many more people aware of the Energy Action Plan Process. It is obvious from the enthusiastic response to the plan that the residents of Ottawa are already very interested in residential energy conservation and in the overall concept of an energy action plan. When the Residential Energy Action Plan is submitted for approval it will reflect the concerns of Ottawa residents and encourage further public co-operation in the Energy Action Plan Process.

Upon completion of their work, the Residential and Participation Subcommittees were disbanded. In addition to revising the Residential Energy Action Plan, the Advisory Committee is now organizing the second and final phase of the Energy Action Plan Process – energy action in the commercial/ institutional/industrial sector and transportation sectors.

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ENERGY ACTION
Communities at Work

Case Study

Ontario Ministry of Energy
Honourable Philip Andrewes
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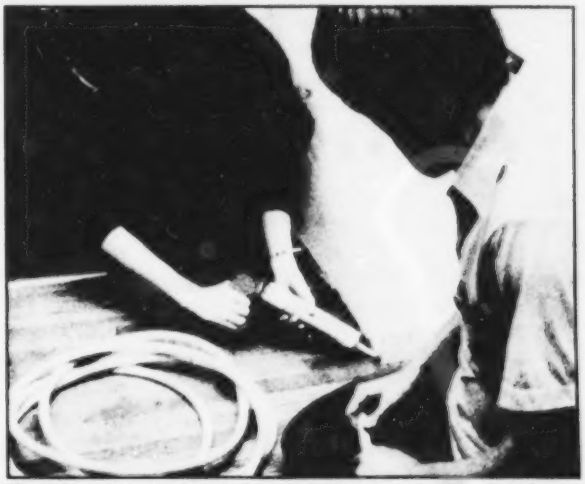
Energy Ontario

September, 1983

The Urban Energy Centre is housed in a low energy designed building.



Sealing and caulking baseboards to stop heat loss is one of the energy conservation techniques demonstrated at Housewarming Parties.

Sheridan/Peel Urban Energy Centre

The Urban Energy Centre (UEC), established in April of 1981 and located on Sheridan College's Brampton Campus, is a joint project of the Regional Municipality of Peel and Sheridan College. In 1981, with funding from the Ontario Ministry of Energy, the UEC expanded its operations to provide information and instruction on energy-related topics for the public and private sectors of the community.

Housed in Sheridan's Enercon Building, the UEC facilities demonstrate several alternative energy systems, including active solar collectors, a passive solar greenhouse, a trombe wall and heat exchangers. Here the public can see alternative technologies at work and participate in "hands-on" activities.

The Project

While funds were provided by the Ministry of Energy, Region of Peel and City of Brampton, Sheridan College provided services in kind to help the Centre become self-supporting within three years. By mid-1984, the Urban Energy Centre expects to generate sufficient revenue from its courses and seminars to cover operating costs.

The UEC Mandate

The UEC's mandate is to promote and offer energy-related courses, workshops and seminars to private sector audiences as well as to the general public (including Sheridan students); to provide a focus for energy-related activities in the Regions of Halton and Peel while facilitating an energy information flow between the municipalities, the Ontario Ministry of Energy and Energy, Mines and Resources Canada; and to maintain an up-to-date library on energy subjects.

This is one in a series of Energy Action: Communities at Work case studies which has been prepared by the Ontario Ministry of Energy. The 10-part series (nine case studies plus an overview) reports on community energy projects which have been initiated with the assistance of the ministry.

The series traces the experiences of different communities in the development, organization and implementation of energy projects. The series is not prescriptive, but rather illustrates ideas and processes which participating communities have developed to date. It serves as a guide which other communities may use to help them initiate their own local energy programs.

The UEC mandate is broken down into the following six specific functions:

1. Develop and conduct energy-related courses, workshops and seminars;
2. Act as an energy secretariat, collect information, handle enquiries, disseminate energy information;
3. Act as a clearing house for information between various government energy agencies;
4. Liaise with energy groups in the Region of Peel;
5. Liaise with appropriate government agencies;
6. Liaise with other regions on energy activities.

Organization

A six-member board of directors is responsible for the overall management of the UEC project. The board comprises municipal councillors from Brampton and Mississauga; a member of the Board of Governors of Sheridan College; the Brampton Campus Principal of Sheridan College; one faculty member of the department of Applied Science and Technology; and three resource people from the community.

A Community Outreach Co-ordinator is the project's only full-time staff member. The co-ordinator is supported by two advisory committees – the Industrial Program Advisory Committee and the Community Outreach Committee – which suggest specific activities and provide overall guidance.

Reporting to the Board of Directors through the UEC co-ordinator, the members of both advisory committees have experience in developing and implementing energy conservation programs for various public and private sector agencies. The responsibilities of the two committees are as follows:

1. **Industrial Program Advisory Committee**
   To develop and conduct workshops, courses and seminars designed to demonstrate to industry how it can benefit from and implement conservation techniques.
2. **Community Outreach Committee**
   To develop community outreach programs for the consumer who is unaware of the value of energy conservation and lacks the practical knowledge. Outreach programs include: i) a series of public lectures on energy-related subjects ii) a series of workshops, conducted in co-operation with local utilities, on how to carry out a home energy audit iii) two sets of workshops and tours for consumers about the costs and benefits of energy-efficient homes iv) programs to inform the construction industry about energy-efficient homes.

Community Outreach Projects

Energy Conservation Workshops

Three series of energy workshops were offered to the general public – two in the fall of 1981 and one in the spring of 1982. The following eight topics were covered in both series:

1. Overview of Energy Conservation
2. Improving Your Existing Heating System
3. Finding and Fixing Air Leaks
4. Insulation
5. Woodstoves and Fireplaces
6. Heat Pumps
7. Greenhouses
8. Energy Efficient Cars and Alternative Fuels

The fall workshops were well-publicized through newspapers and radio. Although overall enrollment was high, there was a slight decline for the spring workshop because of the seasonal nature of the public's interest in energy conservation. The Community Outreach Committee is planning to publicize all future workshop sessions more directly through the use of posters and brochures to induce greater year-round interest.

A survey taken upon course completion indicated that most workshop participants found the information very practical and would recommend the workshops to others.

In addition to the above series, three individual workshops – on heating alternatives; woodstoves and fireplaces; and air leakage – were conducted in the fall of 1982. Participants indicated a high level of satisfaction with the courses.

A random survey of course participants, conducted the following January, revealed that 53 per cent had weatherized their homes since attending a workshop; 26 per cent had added insulation; two per cent had carried out extensive retrofit work; and two per cent had added a woodstove. Several more said they had purchased retrofit materials and would be starting work in the spring.

Housewarming Parties

"Housewarming parties", a novel way of giving homeowners practical, one-on-one energy conservation information, were introduced through the UEC in the Brampton/Mississauga area in November 1982.

First, a number of people in the Region who were undertaking energy conservation work in their homes were contacted by the UEC and asked to be housewarming party hosts. Next, participating homeowners invited eight to 16 friends and neighbours to a three-hour practical workshop.

Guests were given an opportunity to handle materials, apply weatherstripping and caulking and build simple retrofit measures under the direction of an energy conservation expert.

The demonstrations were performed by two energy advisors from Brampton Hydro, using materials donated by several manufacturers and tools borrowed from Sheridan College. The parties were publicized with advertisements in local newspapers and radio stations. Media activities were arranged through Sheridan College's Information Services Department.

Nine Housewarming Parties were held in all – six in the fall of 1982 and three in the winter of 1983. A total of about 100 people attended. For further information about housewarming parties refer to the Energy Conservation Community Outreach Case Study (ECCO) in this series.

Energy Management and Hotel Industry Workshop

In 1982, the UEC received permission from the Board of Directors to hire a Program Development Co-ordinator for an eight-month period to develop energy conservation information programs for industry. The co-ordinator's first task was to organize the Energy Management and Hotel Industry Workshop.

In the spring of 1983, as a result of the co-ordinator's efforts, the Holiday Inn hosted a successful one-day workshop for employees of small hotels.

Conserving Energy in Religious Buildings Program

The Toronto-based Ecumenical Energy Working Group and the UEC have been meeting to discuss the possibility of developing a program to reduce energy costs in religious buildings in Brampton and to set up workshops on home energy savings for the congregations involved.

ASHRAE Seminar

The American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE), Toronto Section, approached the Urban Energy Centre to arrange a course on energy management for its general membership. With materials provided by UEC, a seminar was held in February, 1983 with 20 persons attending.

Syntex Inc. Seminar

Syntex, a pharmaceutical manufacturing company in Mississauga, expressed interest in participating in seminars or workshops on energy conservation for its staff. Syntex is already active in energy awareness and has taken energy conservation measures at its plant.

In response, the UEC held a one-day workshop in February 1983 on the topic "Hone the Competitive Edge – Include Energy Conservation in Your Management System." With invitations extended to other pharmaceutical companies, 16 people attended this successful seminar designed for administrative and maintenance managers.

Community Energy Management Program (Winter '82)

The Urban Energy Centre assists in the delivery of educational programs identified by the City of Brampton's Community Energy Management Plan (CEMP) process. A case study of Brampton's CEMP program is included in this series.

Post-Graduate Certificate Programs on Energy Conservation and Management

The Urban Energy Centre is investigating ways of offering a certificate program on energy conservation and management. The program would be conducted through Sheridan College's Continuing Education Division and would be aimed at graduates of the Mechanical Engineering Technology program. Sheridan is currently analyzing the potential job market for graduates of such a course.

Landscaping Seminars

Seminars on landscaping for energy conservation are planned for the summer of 1983. These seminars will tell homeowners how to achieve maximum energy conservation by, for example, using berms, trees and bushes as wind breaks.

Senior Weatherization Assistance Programs (SWAP)

By the fall of 1983, the first phase of this program to provide retrofit assistance to Brampton's senior citizens should be underway.

Following a free home energy survey arranged by UEC and performed by Brampton Hydro under Ontario Hydro's Residential Energy Advisory Program (REAP), UEC staff will help seniors decide on necessary retrofit projects. Senior citizens purchase the materials, the costs of which are eligible for rebate under the federal government's Canadian Home Insulation Program (CHIP), and the UEC provides the labour at no charge.

The second phase will extend the program in 1984 to include handicapped residents of Brampton.

Tour of Homes

A tour of four energy-efficient homes in Peel Region was held in February, 1983. A second tour, involving three homes, was given the following June. Twenty-five people attended each event.

Poster Design

A special UEC poster was designed and distributed to local schools, libraries, utility offices, municipal offices and hardware stores to publicize the Centre's work.

Peel Region Science Fair

The UEC participated in the promotion of the Peel Region annual Science Fair. Cash awards were offered for students with the best energy-related entries. This is an ongoing project, aimed at encouraging students to get involved in energy conservation.

Industrial Survey

The UEC is using the results of a survey of the industrial sector, carried out by the City of Brampton as part of the Community Energy Management Demonstration, to gain an understanding of the needs of this sector. Survey results will help the UEC develop courses and workshops and will provide a data base for those energy programs which are already available to Brampton's industrial community.

Energy Awareness Month

The Urban Energy Centre is working closely with the City of Brampton to stage an Energy Awareness Month in October, 1983. The main event of the month will be an energy show, appearing at Shopper's World Mall in Brampton.

The energy show will incorporate displays produced by various manufacturers, government agencies and public utilities, and will present a range of energy conservation products. The UEC will have a booth, in addition to a display, to answer questions from passers-by. Stage demonstrations of weatherstripping and caulking techniques will give energy show visitors an opportunity to see first hand how to take energy conservation measures. A novel fashion show featuring warm clothing is also planned.

Drop-In Centres

As part of the City of Brampton's liaison with the Peel Urban Energy Centre, an energy conservation drop-in centre was approved by Brampton Council. The centre will be located in the Brampton Civic Centre and will be staffed by students hired by the Urban Energy Centre under the Government of Ontario's employment assistance program.

The Energy Conservation Drop-in Centre will offer information and advice to Brampton residents on a wide variety of energy conservation topics, ranging from household hints on caulking and weather stripping, to information on available government grants and incentives. In addition, it will publicize energy conservation courses, workshops and seminars offered by the Urban Energy Centre.

Summary

In a short time, a large number of people with a wide range of interests and energy conservation needs, have been contacted in a direct, personal way by various UEC projects. The workshops and courses have been well attended and enthusiastically received - and many have had concrete results. The personal touch really helps people to bridge the gap between understanding the benefits of energy conservation and taking action.

The UEC has not yet attained economic self-sufficiency. It appears to be a more difficult challenge than originally anticipated. To attain this goal, emphasis will be placed on establishing closer ties with the business community and on developing and implementing projects with a potential for substantial economic return.

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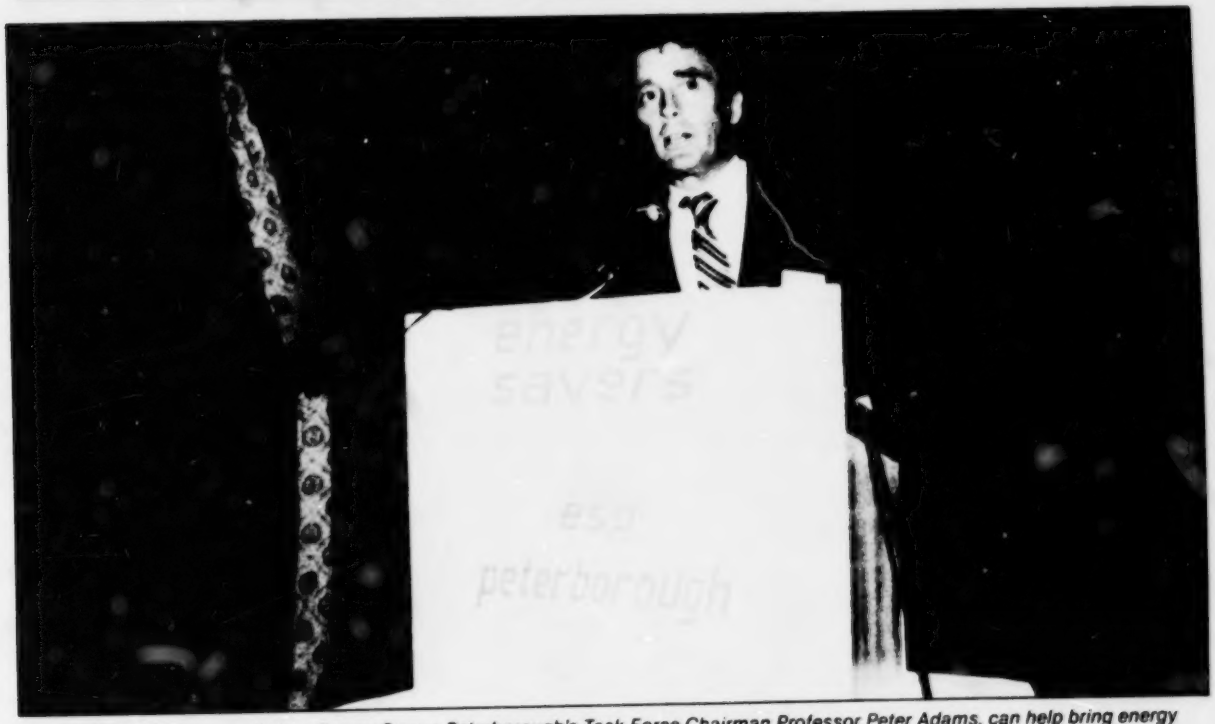
ENERGY ACTION
Communities at Work

Case Study

Ontario Ministry of Energy
Honourable Philip Andrewes Minister

Energy Ontario

September, 1983



Key people in the community like Energy Savers Peterborough's Task Force Chairman Professor Peter Adams, can help bring energy action to the public's attention.

Energy Savers Peterborough

Peterborough, with a population of 65,000, lies in a prime agricultural area and scenic tourist region about 130 km (81 miles) northeast of Metropolitan Toronto. As in most municipalities, during the boom years of the 50's, 60's and early 70's, Peterborough paid little attention to the energy-efficiency of residential and commercial/industrial development because conventional energy was cheap and plentiful.

That outlook changed however when the international supply of fossil fuels became unstable and prices started to rise. Municipalities, feeling the pinch, began thinking about ways to reduce community-wide energy costs. In Peterborough, "ESP" was born.

"Energy Savers Peterborough" is a Community Energy Action project run by a small group of imaginative and dedicated people. Hard work and the sheer determination of an army of volunteers has made ESP a reality.

Although technical support and advice was offered by the Ontario Ministry of Energy, ESP was implemented by the same people it would affect.

It has been more than a year since ESP was officially launched by the Ontario Ministry of Energy in cooperation with community organizations in Peterborough and the project is alive and well - so well in fact that the organizers plan to extend it for a second year. As the Honourable Robert Welch, then

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Minister of Energy remarked, "the success of the program has proven that community projects work. ESP will serve as an inspiration to communities throughout the province."

ESP's ultimate goal is to raise public awareness about energy conservation and encourage people to take action by providing practical information in a direct, personal way. By relying on the people of Peterborough to help carry out the project, and on local sources for much of the funding, energy conservation remains personal and familiar. Everyone can get involved.

Peterborough was chosen by the Ministry of Energy as the site for this novel experiment for several reasons. Its population is small enough to allow a strong sense of community. A well-developed business community and sophisticated industrial sector as well as an excellent university and community college are all available to provide expertise and support. Peterborough also has a proven track record of successful community-based activities. More than 100 sports clubs, service clubs and associations are active locally.

In addition, Peterborough had demonstrated an interest in energy conservation. Fifteen trucks and cars in the City's Public Works Department were converted to propane under the Ontario Government's Drive Propane program. Two active solar energy projects were intitiated with Ministry of Energy support, and the Peterborough Board of Education has one of the three most energy-efficient school systems in the province. In addition, Outboard Marine Corporation, a large local manufacturing firm, uses compressed natural gas as a fuel for its commercial fleet of cars and trucks and is undertaking an ambitious in-house energy conservation program.

The ESP Experiment

The ESP experiment was spearheaded by a 19-member task force made up of volunteers representing local service clubs, retail merchants, industry, church groups, school boards, environmental groups, public interest groups, and public utilities. The Canadian Manufacturers Association, Consumers' Gas Company, the City of Peterborough and Trent University were also represented.

The task force first established the following set of goals:

1. Raise the overall awareness of the need to save energy,
2. Provide tangible ways to conserve energy,
3. Develop and maximize the community's commitment and involvement in energy conservation activities,
4. Reduce individual energy consumption, and
5. Reduce overall energy consumption within the community.

To meet these goals, the task force then developed and coordinated a series of community energy conservation projects. These projects included community meetings, courses and educational displays.

ESP Projects

Kick-off week

It was obvious from the start that publicity was a key to ESP's success. To attract as much community attention as possible, a kick-off week was held, featuring several energy conservation "events".

The ESP program was officially launched by the visit of the then Minister of Energy, the Honourable Robert Welch to Peterborough on May 10, 1982. The week's activities included a visit by the local MPP, Mr. John Turner, a car and driver tune-up clinic, a poster exhibition, participation in a local trade show, a demonstration by the local chapter of the Solar Energy Society, a tour of energy-efficient houses, and a tire pressure check clinic.

The tire pressure check exercise proved to be particularly revealing. Eighty-five per cent of the motorists who participated had underinflated tires. If 85 per cent of all Peterborough's 31,400 vehicles had underinflated tires, it would mean that more than one million dollars was being wasted each year on gasoline.

A three-week car and driver tune-up experiment was also conducted as part of ESP's kick-off activities. Ten members of the local media drove normally during the first week and recorded mileage and gasoline consumption. At the beginning of the second week, the participants had their cars tuned up and attended a seminar on driving practices that improve mileage. During the third week, the participants once again recorded gasoline consumption and mileage. The tune-up combined with the new driving practices resulted in a ten percent average improvement in fuel efficiency.

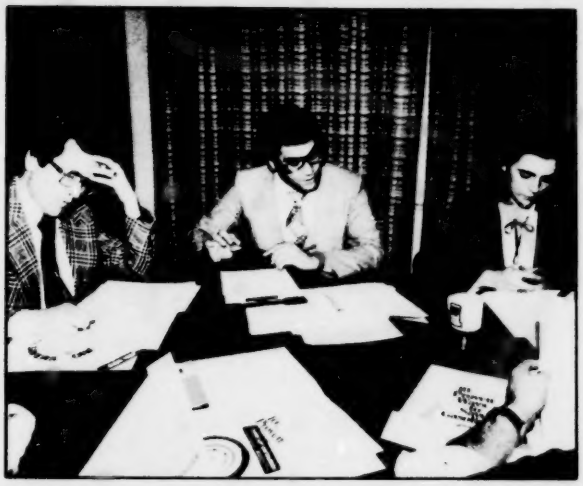
Ontario motorists consumed approximately three billion gallons of gasoline in 1981. If the fuel efficiency of all the cars in Ontario were improved by ten per cent, the saving in dollars – even at gas-war prices – is in the hundreds of millions.

Storefront Energy Centre

During the kick-off celebrations, ESP opened its storefront office in Peterborough's central downtown shopping mall. With space donated by the mall's owner's, the ESP storefront's energy centre provided a convenient source of public information on energy conservation techniques, related private sector services and government programs. The storefront also acted as a centre for a variety of ESP promotional and educational activities held throughout the year.

Three storefront staff members were hired for a period of thirteen weeks each. The Ontario Government's Experience '82 program, a summer employment program for students, supplied the funds for hiring three storefront staff members. Work periods were staggered to allow the storefront to be staffed from May 24 to September 17, providing complete service to the community during the summer months.

During the first year of operation, an average of more than 200 visitors each week passed through the energy centre's doors. Many were attracted by a



Task Force volunteers representing local service clubs, industry, merchants, Church groups, public interest groups, and public utilities can ensure wide spread community support for an energy project.

A tire pressure clinic is useful to automobile drivers in the community and may point out unnecessary gasoline waste.

series of exhibits (on topics such as woodstoves and chimneys, insulation and sealing, and agricultural energy conservation) and by a series of films shown on a movie screen located just outside the store.

The ESP task force ensured that all activities received full media coverage.

Conserving Energy in Religious Buildings

With their large windows, spacious interiors, often high, poorly-insulated ceilings and old, inefficient heating systems, religious buildings can be energy-wasters. ESP tackled the problem by working in tandem with the Ministry of Energy's energy conservation program for religious buildings.

Two ESP seminars, led by a Ministry of Energy expert, provided technical information, resource materials, organizational assistance and general encouragement to interested members of various congregations. Response to both seminars was enthusiastic.

Other Projects

Displays produced by local industry, environmental groups and fuel companies were included along with the storefront energy centre displays. The themes of these displays included low-energy lighting, off oil conversion, methanol-operated cars and solar and wind power. ESP also arranged for a number of displays to be shown around Peterborough, including a computerized display on home energy efficiency at the Peterborough Fair and a re-circulating solar heating system, destined to be installed at the city's main firehall, at the Peterborough Public Library.

Other projects coordinated by ESP include an energy conservation workshop held at the Peterborough Public Library, a Drive Save seminar held in cooperation with Ontario's Transportation Energy Management Program, a conservation and building industry trade show, a Canadian Manufacturers Association seminar on energy conservation in industry, an alternative energy vehicle display and a public meeting on woodstoves. ESP also contributed to the annual Energy Lifestyle consumer show held in Toronto.

Energy Savers Peterborough has worked closely with the Energy Management Committees of both school boards, and in particular has helped them in introducing energy conservation concepts into the curriculum.

The Ministry of Energy's Heat Save program gave ESP a boost early in the program. Late in the previous winter, infra-red aerial thermography of Peterborough homes was undertaken. Heat Save clinics were conducted to let residents see from the thermograms where their homes were losing heat and to tell them what they could do about it. The Heat Save idea was first tried - with very positive results - in Peterborough four years earlier.

Some Lessons From ESP

According to Dr. Peter Adams, task force chairman and Professor at Trent University, the key ingredient of Peterborough's project was the enthusiasm of the ESP volunteers. "Volunteers are frequently more committed to these projects than are paid staff".

From its inception, the Peterborough experiment was intended to provide an example for other municipalities. Therefore, while they were busy carrying out the project, the ESP task force members were also carefully observing and recording results to help other communities learn from their experience.

Based on their experience, the task force members discovered the value of choosing a highly skilled task force chairman - someone who enjoys public speaking, is thoroughly familiar with the goals and objectives of energy conservation and is well known in the community. This last quality helps attract volunteers and the media.

The Peterborough experiment showed that community support is just as important as effective teamwork. Community support for ESP was solicited from the beginning, with the task force establishing personal contact with municipal politicians, local industry leaders and educators, and with service and community groups. Ideas, advice and when

appropriate, time or material donations were sought. Participation from these kinds of groups proved to be invaluable as the project progressed.

Since the initial goal of the ESP project was to increase the awareness of as many people as possible in the Peterborough area about energy conservation, it was obvious that a first class publicity campaign was essential. The ESP task force developed a thorough, carefully-planned campaign including several elements.

Visual identification is an attention-getter. A group logo, to make it easy for people to identify ESP materials and projects, was developed through community participation. Contests were held in schools and through local artists' associations.

Kick-off week was also carefully planned to attract media and public attention. The events were highly visible and involved as many high-profile people as possible.

The two most effective publicity tools were word-of-mouth and media coverage. It turned out that people telling people about ESP was a powerful motivator. It piqued interest and encouraged participation in energy conservation activities.

Media coverage is a key to any successful publicity campaign. The ESP task force sustained the interest of the media by keeping their events interesting, establishing and maintaining media contacts, arranging well-prepared and well-organized press conferences and preparing numerous, timely news releases.

The task force has identified several areas that require improvement. Greater emphasis on the "hands-on" approach to energy conservation is expected to make the project even more successful.

Housewarming parties, a concept employed by the Riverdale Energy Conservation Community Outreach (ECCO) project in the City of Toronto, are an addition planned for the upcoming year. These energy conservation workshops give eight to 14 "guests" a chance to see energy conservation work being done in a neighbourhood house and to install some simple retrofit measures themselves. ECCO follow-up has shown that a high proportion of people who attend housewarming parties subsequently make energy conservation improvements to their homes.

ESP's relationship with the commercial sector of the Peterborough community has not been as close as desired. Dr. Peter Adams, ESP chairman, has attributed this to a lack of personal contact with that sector. An effort will be made to improve contact during the second year of the project.

Although the storefront energy centre was a great success and a necessary part of ESP, it proved to take more of the project's resources than originally anticipated. In deciding to extend the energy centre for another year, it became evident to the ESP task force that at least one full-time paid person would be needed to manage the office properly.

The first year of the ESP experiment was a creative, exciting adventure in community energy action. It proved that a group of dedicated volunteers could transform energy conservation from an interesting idea into reality. Above all, as Peter Adams says, "the Peterborough experience showed us that, if you want to motivate people you have to do it at a grass roots level".

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ENERGY ACTION
Communities at Work

Case Study

Ontario
Ministry of Energy
Honourable Philip Andrewes
Minister

Energy Ontario

September, 1983

The very successful Housewarming Party idea was used by ECCO. Here an insulated window shutter is being explained and installed.

Energy Conservation Community Outreach in Toronto

Launching an effective community-based energy conservation program is difficult. However, launching an effective energy conservation project in an ethnically-mixed downtown community of 70,000 with 18,000 predominantly older semi-detached housing units is an extraordinary challenge. The City of Toronto took on the challenge and developed the Energy Conservation Community Outreach (ECCO) project for the Riverdale neighbourhood.

The ECCO project, one of the Ontario Ministry of Energy's community-based energy action pilot projects, has been operating since January 1982. It marks the first time a municipality has co-ordinated all three levels of government as well as utilities to provide a complete energy advisory service. The project, funded jointly by the Ministry of Energy and the City of Toronto, was carried out by the City with co-operation from Toronto Hydro, a major oil company and several community groups.

When the project was initially planned, it had become apparent that few residents were taking advantage of energy conservation information and government assistance programs. Toronto Mayor Art Eggleton observed, "There's lots of literature around on how to conserve energy, but many people still don't know which programs they're eligible for and

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which improvements they should spend money on. The ECCO project is designed to fill that gap."

ECCO's primary objective was, therefore, to provide practical energy conservation information to residents in the Riverdale neighbourhood of Toronto in a personal, direct way with an emphasis on "hands-on" experience where possible. It meant telling people, face-to-face, about air leakage, sealing and insulation, oil substitution, home energy surveys, Heat Save clinics, retrofitting and other energy conservation methods.

After receiving project approval from the Ministry of Energy, an energy co-ordinator was hired. A senior building inspector, two technical staff and a summer student were hired to complete the ECCO staff.

The ECCO project was fortunate in finding a home at Riverdale's Howland House. As an energy conservation retrofit demonstration project sponsored by the Ontario Ministry of Municipal Affairs and Housing, Howland House has given the ECCO project public exposure and allowed many people from the community to view conservation measures first hand.

The detailed ECCO project work plan was formulated in the early months of 1982 following careful assessment of the needs of the Riverdale community. Several of the project's services were designed with assistance from the ECCO Energy Advisory Committee comprising Toronto Hydro, oil and gas companies, provincial and federal governments, and the local school board.

The service delivery phase began in May 1982 and ran through to May 1983. Wind-up and evaluation was completed in August 1983.

Four kinds of project services were identified: services run solely by ECCO staff, services co-ordinated by ECCO staff, joint programs and special events.

ECCO Services

Housewarming Parties

A success story from the start, housewarming parties have proven to be powerful motivators.

A housewarming party is basically a three-hour home demonstration workshop about energy conservation retrofit techniques. Eight to 14 people are invited to a neighbourhood home. Party-goers review an information kit containing sample insulation and weatherstripping material, information about various energy conservation products and photographs illustrating retrofit techniques.

A qualified ECCO representative shows participants how to apply weatherstripping and caulking and how to carry out other simple retrofit measures such as building insulated window shutters. The party then splits into smaller groups for valuable "hands-on" experience, applying their new knowledge and skills directly to their host's home, under the expert eyes of the ECCO staff. After the party, guests are encouraged to schedule a Toronto Hydro Home Energy Check-Up for their home.

The one-on-one approach and the "hands-on" experience of the housewarming party is an effective means of overcoming many of the barriers which inhibit homeowners from taking energy conservation measures. Preliminary results from a study of the ECCO housewarming parties show that at least four people attending each party subsequently take steps to improve the energy efficiency of their homes.

Housewarming parties also tend to have a snowball effect. Many of those attending tell their friends about it later and even pass on their newly-acquired skills and knowledge.

ECCO's housewarming parties were publicized through community meetings, through the distribution of a brochure and through newspaper coverage. By early spring, 1983, more than 22 parties had been held with a total of 218 people attending.

Renovation Advice

To take advantage of the extensive renovation activity occurring in Riverdale, the ECCO project created a renovation advisory service encouraging residents to include conservation measures in their home improvements.

An ECCO staff building inspector, on loan from the City of Toronto Buildings and Inspections Department visits the homeowner and provides free practical advice about energy-saving retrofit measures. When both "do-it-yourselfers" and professional renovators apply for building permits, they are informed of the renovation advisory service.

Public response to the free advisory service has been enthusiastic. More and more residents have been taking advantage of it. By the end of May 1983, more than 95 homeowners/renovators had requested and received renovation information.

Hardware Store Demonstration

During the fall of 1982, a series of Saturday morning energy conservation demonstrations, held in Riverdale hardware stores, attracted more than 200 people. One week before each demonstration was conducted, an ECCO sign was placed in the hardware store's window announcing the event.

Although response to the demonstrations was encouraging, some stores had difficulty finding space for both the ECCO displays and the audience. A great deal of effort was also being expended to reach a comparatively small number of people. Mindful of their limited resources, the ECCO staff reluctantly decided to discontinue the demonstrations and concentrate their efforts on other services.

Co-ordinated Services

Toronto Hydro Check-Ups

Many people need help to learn how heat energy is being wasted in their homes and what they can do about it. Toronto Hydro offers free home energy advice and ECCO staff helps to promote the advice in Riverdale by arranging for home visits.

Residents were notified of the "home energy check-up" service through local media and through the distribution of appointment cards to neighbourhood homes. To help ECCO determine how much energy was saved by the project, each resident was asked at the conclusion of the Toronto Hydro check-up, to sign a release form allowing ECCO staff confidential access to the household heating accounts for comparison purposes.

By May 1983, more than 125 home energy check-ups had been arranged through the ECCO project.

Heating Oil Check-Up

Poorly maintained and obsolete oil furnaces waste vast amounts of heating oil each year in Ontario. Under the direction of ECCO, all Riverdale residents with oil-burning furnaces were given the opportunity for a free furnace check-up by a major oil company service contractor, working in co-operation with ECCO. More than 50 furnace check-ups had been arranged by May 1983.

Courses

ECCO co-ordinated two kinds of courses: professional courses and courses for the general public. All were conducted in the late summer and fall of 1982.

The professional courses included a three-part energy renovation course for contractors about interior and exterior retrofit, and materials. Taught by experienced renovators, 12 local professional contractors attended. Twelve hardware store owners, representing 50% of Riverdale's hardware stores, attended a product material seminar led by ECCO staff, while 20 building inspectors attended ECCO's energy conservation renovation course. ECCO staff organized two professional seminars on basement insulation and on air quality and home insulation. Fifteen professionals were invited to the first seminar and 25 professionals attended the second.

ECCO staff also organized a series of six seminars for the public on weatherization, insulation and heating system efficiency. Held in various centres around the Riverdale community, these seminars were conducted in English, Greek and Chinese.

Overall, the public courses were well received and the response enthusiastic. Approximately 145 people attended.

ECCOline

ECCO installed an energy conservation telephone hotline in the fall of 1982 to provide individual assistance to Riverdale residents. More than 260 enquiries had been received by the beginning of April 1983.

Joint Programs

ACE

To reach as wide an audience as possible, ECCO contacted Riverdale schools through the Toronto Board of Education's Advocate Conservation Effectively (ACE) program. A series of mini-courses on energy conservation were held in 12 area elementary schools where more than 5,000 ECCO brochures were distributed.

Ecumenical Energy Working Group

Religious buildings pose a special challenge to energy conservation because of their architectural characteristics - high ceilings, poorly insulated roofs, large windows and heating systems which are frequently old and inefficient. Many religious institutions can ill afford the strain placed on their budget by the high cost of heating fuel.

To meet this challenge, the ECCO staff worked closely with the Ecumenical Energy Working Group (EEWG) - a national body representing a spectrum of religious institutions and promoting ECCO services to Riverdale congregations. Through the combined efforts of ECCO and the EEWG, more than half the religious buildings in Riverdale received an energy audit conducted by Toronto Hydro. Participating religious groups formed Energy Action Committees and congregation members were invited to ECCO-led "T.E.A. Parties" (Training in Energy Action). As in house-warming parties, T.E.A. party-goers are first instructed in the proper handling and installation of weatherstripping and caulking, and then given an opportunity to carry out simple retrofit work in their organization's building.

Public Forum

On two consecutive nights last winter, an overall total of 1000 people crowded into an auditorium in the Royal York Hotel to learn how to stretch their home heating dollar. ECCO provided a number of demonstrations and helped to organize this successful event in conjunction with the Ontario Ministry of Municipal Affairs and Housing's New Neighbourhood Conference.

Special Event

Gerrard Square Show

ECCO held one major special event - a five-day energy conservation show at Riverdale's Gerrard Square shopping centre from November 2 through November 6, 1982. The show featured 25 exhibits presented by both government and private industry.

Continuous energy conservation demonstrations on weatherstripping, caulking, insulation and simple retrofit measures on the main stage captured the attention of thousands of shoppers passing through the mall. A play on "energy wars" was staged by a local high school class. Although exact audience size is unknown, response to the exhibits and demonstrations was enthusiastic.

Publicity

It was obvious from the start that publicity was a key to ECCO's success. After the individual activities had been launched, an organized effort was made to publicize both the overall project and the individual activities.

A slide show explaining the project was shown at local meetings, community centres, and public libraries during the second part of the project phase. An energy newspaper supplement, written by ECCO, was distributed to local papers and an effort was made to get as much media coverage as possible. A feature on ECCO's housewarming parties appeared in the **Toronto Star** in February.

The announcement of energy conservation courses through door-to-door distribution of flyers proved to be less successful than other forms of publicity. Because of a disappointing response, this method was abandoned in favour of more effective measures.

The personal approach proved to be by far the most cost-effective method of publicizing ECCO. Termed "community networking", it involved ECCO staff meeting with 15 community organizations and distributing literature to an additional 27 groups. Word spread and within a very short time, ECCO was regarded as an integral part of the community rather than as an outside agency.

Summary

ECCO had contacted more than 2,000 households by the time the service delivery phase approached completion in May, 1983. Approximately 11 per cent of the households in Riverdale had received some form of direct assistance.

At this time it is difficult to calculate the amount of energy saved, the number of jobs created, and the dollars saved by doing retrofit work properly.

Preliminary results do show, however, that after attending housewarming parties, many people took steps to improve the energy efficiency of their homes. In addition, energy-related renovation work in the neighbourhood increased significantly, as did the sales of energy conservation products in local hardware stores. One draft-proofing company, for example, reported a major increase in its business since the ECCO project began, and hired two additional people as a result.

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